

REMARKS

The abstract of the disclosure has been objected to for the reasons set forth in paragraph 1 of the Examiners Office Action letter. As the Examiner will note, the abstract of the disclosure has been amended to eliminate the informalities referred to by the Examiner and accordingly, it is believed that this objection has been eliminated.

The Examiner has objected to the presence of product by process claim 28 for the reason set forth in paragraph 3 of the Examiners Office Action letter. As the Examiner will note, claim 28 has been cancelled from the present application and accordingly, it is believed that this objection has been eliminated.

Claims 2, 3, 24, 25 and 28 to 30 have been rejected by the Examiner under 35 U.S.C. 102(b) as being anticipated by Mayer et al (US 6,566,434 B1). This rejection is respectfully traversed.

The present invention is directed to an extrudable gypsum plaster paste product which can be formed by using a stoichiometric amount of water in the composition. The stoichiometric amount of water is that amount needed to achieve complete hydration of the plaster from the hemihydrate to the dehydrate form. The amount of water which is utilized is an important feature of the present invention in as much as too much water increases the cost of an eventual water removal and an insufficient amount of water adversely effects the surface smoothness and friability of the product since an inadequate mixing of the water with the plastic can not be achieved.

It has, until the present invention, been difficult to provide satisfactory gypsum moldings, especially extruded moldings. This is because there are two somewhat conflicting requirements. First, the extruded molding must be essentially self supporting, for obvious reasons. This conflicts with the requirement that the paste can be easy to extrude, so that the surface is defect free, which is desirable from both esthetic and structural reasons. The present invention applies a rheology modifier, preferably a clay, and an amount of water which represent a stoichiometric

amount. The rheology modifier serves to insure proper mixing of the ingredients and confers a relatively high yield stress on the paste. The relatively low water contact contributes to these properties and means that there is little or no excess water to remove from the set product. The Mayer et al. reference (US Pat. 6,566,434 B1) relied upon by the Examiner, discloses gypsum products made from a composition including a clay. However, the reference is particularly concerned with making waterproof gypsum products by the inclusion in the composition of vinyl aromatic-1,3-diene copolymers. The clay appears to be present as a binder, and there is no suggestion that the clay should be a rheology modifier having the effects specified in claim 2 of the present application. Further, the amount of water disclosed in the examples is considerably higher than that of the present claims, in excess of 300% of the stoichiometric amount. The compositions made by this disclosure would not be suitable for extrusion, and would not be expected to exhibit the advantageous properties achieved by the present invention. The reference mentions at column 2, lines 6-12 that the gypsum products have high machincal strength. However, this appears to be achieved by the inclusion of resins in the composition, which are not required by the present invention, which never-the-less provide gypsum products having high hardness and modules of rupture.

It is believed that the Mayer et al. patent does not recognize the Applicants problem or the Applicants solution to the problem. Thus, the prior art references use to protective colloid-stabilized vinyl aromatic-1,3-diene copolymers in the form of aqueous polymer dispersions for the modification of gypsum-based materials based on calcium carbonate. Although the reference patent may disclose a gypsum plaster in the form of a hemihydrate together with various binders and modifiers, there appears to be no recognition of the desirability of controlling the amount of water to produce and extrudable gypsum plaster paste as defined by the present invention. Thus, there is no indication in the reference that the inclusion of a clay allows the amount of water required to be reduced to form a workable composition; or that by doing this, a paste having an unusual high yield stress which is self supporting can be formed; or that from the paste a product which is substantially free of macro defects and which has a high hardening and modulus rupture can be achieved, without the need for resins or other additives.


Accordingly, it is believed that the present invention is clearly distinguishable over the teachings of the Mayer et al. patent and thus reconsideration of the rejection and allowance of all the claims of the present application are respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

If the Examiner has any questions concerning this application, the Examiner is requested to contact Joseph A. Kolasch, Reg. No. 22,463 at the telephone number of (703) 205-8000. Facsimile communications may be sent to Joseph A. Kolasch at the facsimile number of (703) 205-8050.

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Respectfully submitted,

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